

LISTING OF CLAIMS

Please replace all prior versions of the claims in this application with the claims listed below:

1. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, the steps comprising:

(a) retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) transforming the raster images into a wavelet data stream which is completely retransformable back to the original raster images;

(c) compressing the wavelet data format stream into the compressed data stream so that said raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the network;

(d) transmitting the compressed data stream over the network to ~~the~~ a client side;

- (e) decompressing the compressed data stream into the wavelet data stream;
- (f) retransforming the wavelet data stream into the raster images;
- (g) displaying the raster image using one of either spatial information and a map viewer or spatial information and a map editor;
- (h) analyzing a user requirement and sending the suitable query to a spatial database;
- (i) retrieving vector data comprising of geographical elements from said spatial database;
- (j) retrieving information from said spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data; data, said spatial database being dedicated to storing only vector data therein;
- (k) editing information or vector data using said spatial information and a map editor;
- (l) storing geographical information in a management information system;
- (m) storing vector data in said spatial database; and

(n) storing geographical raster map or satellite image in said geographical map image storage database; and

(o) said image data being sent to display on the spatial information and map viewer at the client side under control of the spatial information and map viewer, comprising the steps of:

- (a) displaying the spatial information and map,
- (b) receiving user input to zoom, pan the image, and
- (c) receiving user input to query information from the spatial database and the MIS.

2. (original) The method of claim 1, wherein the geographical map can be any form of map including a registered satellite image.

3. (original) The method of claim 1, wherein the wavelet transformation is used to transform said map into various resolution maps.

4. (original) The method of claim 1, wherein said various resolution maps can be filtered for only desired resolution.

5. (original) The method of claim 4, wherein filtered maps are compressed by using compression algorithms.

6. (previously presented) The method of claim 5, wherein compressed data is transferred over the World Wide Web to the client by using an internet network.

7. (original) The method of claim 6, wherein said compressed data is sent across the World Wide Web to a client process and decompressed into said wavelet data format.

8. (original) The method of claim 7, wherein said wavelet format data is retransformed into a geographical map.

9. (canceled).

10. (original) The method of claim 1, wherein user requirement is sent as a query to retrieve data from spatial database under control of the spatial database, comprising the steps of:

- (a) storing vector data;
- (b) storing map geocode that links to the information in the MIS;
- (c) sending geocode to the MIS for more information; and
- (d) sending vector data to the spatial information map viewer or the spatial information map editor.

11. (original) The method of claim 10, wherein query is used with metadata to search for required data.

12. (original) The method of claim 11, wherein metadata explains the meaning of data as well as its logical structure.

13. (original) The method of claim 11, wherein the required data is compressed and sent back to the client.

14. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, wherein the spatial information and the map editor is an apparatus for editing geographical information and map under control of the spatial information and map editor, comprising the steps of:

(a) retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) transforming the raster images into wavelet data stream which is completely retransformable back to the original raster images;

(c) compressing the wavelet data format stream into the compressed data stream so that raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the network;

(d) transmitting the compressed data stream over the network to the a client side;

(e) decompressing the compressed data stream into the wavelet data stream;

(f) retransforming the wavelet data stream into the raster images;

(g) displaying the raster image using one of either spatial information and a map viewer or spatial information and a map editor;

(h) analyzing a user requirement and sending the suitable query to a spatial database;

(i) retrieving vector data comprising of geographical elements from said spatial database;

(j) retrieving information from said spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data; data, said spatial database being dedicated to storing only vector data therein;

- (k) editing information or vector data using said spatial information and a map editor;
- (l) storing geographical information in a management information system;
- (m) storing vector data in said spatial database;
- (n) storing geographical raster map or satellite image in said geographical map image storage database;
- (o) displaying the spatial information and map,
- (p) receiving user input to zoom, pan the image;
- (q) receiving user input to query information from the spatial database;
- (r) editing geographical information on each element on the map;
- (s) editing geographical map;
- (t) storing changed information in the management information system;
- (u) storing changed vector data in the spatial database;

(v) storing new geographical image map or registered satellite image in geographical map image storage; and

(w) retrieving the spatial database.

15. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, comprising:

(a) means for retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) means for transforming the raster images into a wavelet data stream which is completely retransformable back to the original raster images;

(c) means for compressing the wavelet data ~~format~~ stream into the compressed data stream so that said raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the network;

(d) means for transmitting the compressed data stream over the network to the client side;

(e) means for decompressing the compressed data stream into wavelet data stream;

(f) means for retransforming the wavelet data stream into the raster images;

(g) means for displaying the raster image using one of either spatial information and a map viewer or spatial information and a map editor;

(h) means for analyzing user requirement and sending the suitable query to a spatial database;

(i) means for retrieving vector data comprising of geographical elements from said spatial database;

(j) means for retrieving information from said spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data, said spatial database being dedicated to storing only vector data therein;

(k) means for editing information or vector data using said spatial information and a map editor;

(l) means for storing geographical information in a management information system;

(m) means for storing vector data in said spatial database; and

(n) means for storing geographical raster map or satellite image in said geographical map image storage database; and

(o) sending said image data to display on the spatial information and map viewer at the client side under control of the spatial information and map viewer, comprising the steps of:

(a) displaying the spatial information and map,

(b) receiving user input to zoom, pan the image; and

(c) receiving user input to query information from the spatial database and the MIS.

16. (original) The system of claim 15, wherein the geographical map can be any form of map including a registered satellite image.

17. (original) The system of claim 15, wherein the wavelet transformation is used to transform said map into various resolution maps.

18. (original) The system of claim 15, wherein said various resolution maps can be filtered for only desired resolution.

19. (original) The system of claim 18, wherein filtered maps are compressed by using compression algorithms.

20. (previously presented) The system of claim 19, wherein compressed data is transferred over the World Wide Web to the client by using an internet network.

21. (original) The system of claim 20, wherein said compressed data is sent across the World Wide Web to a client process and decompressed into said wavelet data format.

22. (original) The system of claim 21, wherein said wavelet format data is retransformed into a geographical map.

23. (canceled).

24. (original) The system of claim 15, wherein user requirement is sent as a query to retrieve data from spatial database under control of the spatial database, comprising the steps of:

- (a) storing vector data;
- (b) storing map geocode that links to the information in the MIS;
- (c) sending geocode to the MIS for more information; and

(d) sending vector data to the spatial information map viewer or the spatial information map editor.

25. (original) The system of claim 24, wherein query is used with metadata to search for required data.

26. (original) The system of claim 25, wherein metadata explains the meaning of data as well as its logical structure.

27. (original) The system of claim 25, wherein the required data is compressed and sent back to the client.

28. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, wherein the spatial information and the map editor is an apparatus for editing geographical information and map under control of the spatial information and map editor, comprising:

(a) means for retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) means for transforming the raster images into wavelet data stream which is completely retransformable back to the original raster images;

(c) means for compressing the wavelet data ~~format~~ stream into the compressed data stream so that said raster data of said geographical map images is separated into layers or use of said wavelet data stream and compressed before being transmitted over the network;

(d) means for transmitting the compressed data stream over ~~the a~~ network to the client side;

(e) means for decompressing the compressed data stream into the wavelet data stream;

(f) means for retransforming the wavelet data stream into the raster images;

(g) means for displaying the raster image using one of either spatial information and a map viewer or spatial information and a map editor;

(h) means for analyzing user requirement and sending the suitable query to a spatial database;

(i) means for retrieving vector data comprising of geographical elements from said spatial database;

(j) means for retrieving information from said spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data, said spatial database being dedicated to storing only vector data therein;

(k) means for editing information or vector data using said spatial information and a map editor;

(l) means for storing geographical information in a management information system;

(m) means for storing vector data in said spatial database;

(n) means for storing geographical raster map or satellite image in said geographical map image storage database;

(o) means for displaying the spatial information and map,

(p) means for receiving user input to zoom, pan the image; and

(q) means for receiving user input to query information from the spatial database.